

Arsenic Poisoning by Pies

CHARLES H. LA WALL, F.A.P.H.A., and JOSEPH W. E. HARRISSON

*Chemists to Bureau of Foods and Chemistry, Pennsylvania Department
of Agriculture, Philadelphia, Pa.*

EARLY in January, 1934, a number of persons in the northeast section of Philadelphia were made sick by eating pies manufactured by a local baker. The pies were of different varieties, including apple, lemon, and mince. The members of the baker's own family were among those who had suffered illness after eating portions of the pies. The symptoms were those of gastrointestinal irritation, all of the cases being characterized by vomiting and diarrhea. Investigation of this situation by John H. Tryon, General Agent of the Bureau of Foods and Chemistry of the Pennsylvania Department of Agriculture, resulted in his bringing to our laboratory a specimen consisting of half a lemon pie.

Analysis of the pie revealed the presence of arsenic in remarkably large amounts. The weight of the sample submitted was 375 gm., of which 255 gm. was filling, and 120 gm. was crust. A quantitative determination of the arsenic in both crust and filling showed 0.184 per cent of arsenic trioxide in the crust and 0.015 per cent of arsenic trioxide in the filling. This pointed clearly to the fact that the contamination was probably due to some ingredient used in the crust. The bakery was visited and a number of samples of raw materials taken for examination, none of which was found to contain arsenic. The baker then recollected that the crust of all of the pies made on the day previous to the one on which the people became ill had been made with corn meal which was part of a lot

purchased at an auction sale a few days previously, which had included the stock of a grocery store which had become bankrupt. He recollected also that one of the cartons of corn meal had been opened and was only partly filled when he received it. Investigation through the auction company and subsequently through the former manager of the store whose products had been sold, revealed the fact that there had been a box of corn meal opened and the contents mixed with sugar and rat poison, then put back and kept for use in poisoning rats. The store manager also admitted that this package of corn meal had not been labeled and that only a few of the people in the store knew about it, and that it could easily have been sold and used as corn meal.

Approximately 150 people were reported as having been made ill from eating 30 pies which the baker admitted having distributed. Many of them required medical attention, but only 1 was taken to a hospital. This patient was discharged within 48 hours as cured. The absence of any fatalities in this case of wholesale poisoning, which was due to gross negligence, may be accounted for by the fact that the arsenic was present in such large amounts, as the calculations showed that each pie contained between 7 and 8 grains of arsenic trioxide. The baker suffered no loss of prestige, apparently, as he and his family had also been victims, and he had been prompt and generous in payment of fees for medical attendance of victims of the accident.